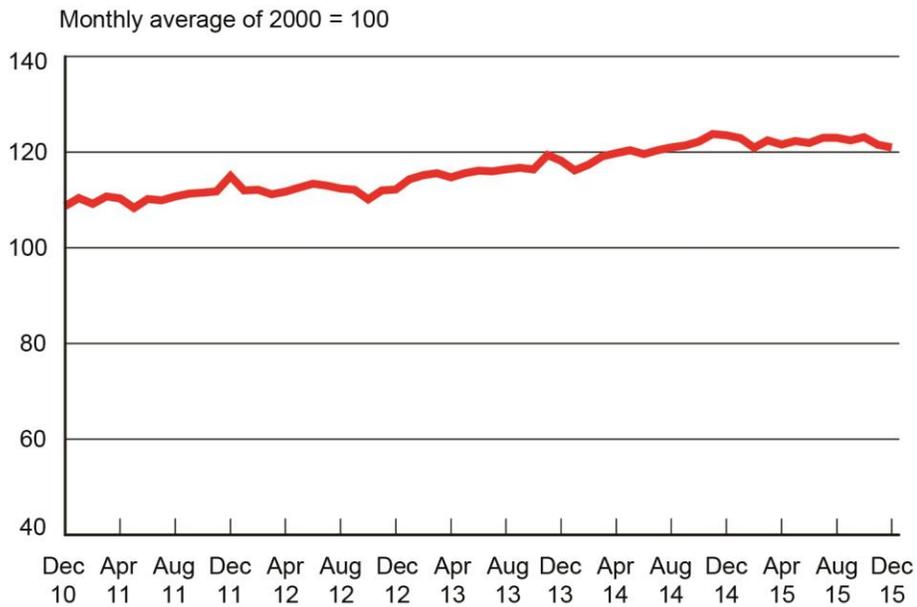

BTS 09-16
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December 2015 Freight Transportation Services Index (TSI)

The Freight Transportation Services Index (TSI), which is based on the amount of freight carried by the for-hire transportation industry, fell 0.4 percent in December from November, declining for the second consecutive month, according to the U.S. Department of Transportation's Bureau of Transportation Statistics' (BTS). The December 2015 index level (121.0) was 27.8 percent above the April 2009 low during the most recent recession (Tables 1, 2, and 2A).

Freight Transportation Services Index, December 2010 - December 2015



The level of freight shipments in December measured by the Freight TSI (121.0) was 2.3 percent below the all-time high level of 123.8 in November 2014 (Table 2A). BTS' TSI records begin in 2000. See historical [TSI data](#).

The November index was revised to 121.5 from 122.0 in last month's release with smaller downward revisions for August through October.

The Freight TSI measures the month-to-month changes in freight shipments by mode of transportation in tons and ton-miles, which are combined into one index. The index measures the output of the for-hire freight transportation industry and consists of data from for-hire trucking, rail, inland waterways, pipelines and air freight.

Analysis: The December Freight TSI decrease of 0.4 percent from November was broad in terms of mode – all freight modes decreased except for trucking, which increased slightly. The decrease was driven by weakness in the mining (including oil and gas well drilling and servicing), utility and manufacturing sectors of the economy. The [Federal Reserve Board Industrial Production index](#) declined 0.4 percent in December while the [ISM Manufacturing Index](#) was below 50, indicating declining manufacturing activity. Housing starts were also below the November level.

The fourth-quarter TSI decline of 1.2 percent from the third quarter matched trends in the larger economy. [Gross Domestic Product](#) (GDP) growth decreased to the relatively slow quarterly rate of 0.2 percent (which is equivalent to an annual rate of 0.7 percent). The Industrial Production index also declined during the fourth quarter.

Trend: Following declines of 1.3 percent from October to November and 0.4 percent from November to December, the Freight TSI was 1.7 percent below its October level. The consecutive declines were the first time the index fell two months in a row since February 2015. After the November and December declines, the index was 2.3 percent below the November 2014 high point. The fourth quarter decline of 1.2 percent was the largest quarterly decline since the first quarter of 2012. The freight TSI declined in three of the four quarters of 2015. The index remains high compared to earlier years and has increased by 27.8 percent since its low of 94.7 in April 2009. For additional historical data, go to [TSI data](#).

Index highs and lows: Freight shipments in December 2015 (121.0) were 27.8 percent higher than the recent low in April 2009 during the recession (94.7). The December 2015 level was 2.3 percent below the historic peak reached in November 2014 (123.8).

Full year: Freight shipments measured by the index were down 2.0 percent in December compared to the end of 2014, the first full year decline since 2012 (Table 3).

Long-term trend: Freight shipments are up 11.3 percent in the five years from the post-recession level of December 2010 and are up 7.7 percent in the 10 years from December 2005 (Table 5).

Same month of previous year: December 2015 freight shipments were down 2.0 percent from December 2014 (Tables 4, 5).

Fourth quarter changes: The Freight TSI fell 1.2 percent in the fourth quarter of 2015, declining after a rise of 0.5 percent in the third quarter (Table 10).

The TSI has three seasonally adjusted indexes that measure changes from the monthly average of the base year of 2000. The three indexes are freight shipments, passenger travel and a combined measure that merges the freight and passenger indexes. See [Seasonally-Adjusted Transportation Data](#) for numbers for individual modes. TSI includes data from 2000 to the present. Release of the January 2016 index is scheduled for March 9.

Passenger Index: The TSI for passengers rose 0.5 percent in December from its November level (Table 6). The Passenger TSI December 2015 level of 123.5 was 1.9 percent above the December 2014 level (Table 7). The index is up 9.1 percent in five years and up 13.5 percent in 10 years (Table 5). The passenger TSI measures the month-to-month changes in travel that involves the services of the for-hire passenger transportation sector. The seasonally-adjusted index consists of data from air, local transit and intercity rail.

Combined Index: The combined freight and passenger TSI fell 0.2 percent in December from its November level (Table 8). The combined TSI December 2015 level of 121.8 was 0.9 percent below the December 2014 level (Table 9). The combined index is up 10.6 percent in five years and up 9.2 percent in 10 years (Table 5). The combined TSI merges the freight and passenger indexes into a single index.

Revisions: Monthly data has changed from previous releases due to the use of concurrent seasonal analysis, which results in seasonal analysis factors changing as each month's data are added.

BTS research has shown a clear relationship between economic cycles and the Freight and Passenger Transportation Services Indexes. See a [study of this relationship](#) using smoothed and detrended TSI data. Researchers who wish to compare TSI over time with other economic indicators, can use the [FRED database](#), which includes freight, passenger and combined TSI, and which makes it possible to easily graph TSI alongside the other series in that database. See [TSI data on FRED](#).

For a webinar on the TSI, see [Past Webinars](#). For a video explanation of the TSI, see [Overview of the Transportation Services Index](#). A BTS report explaining the TSI, [Transportation Services Index and the Economy](#), is available for download.

Table 1: Freight, Passenger and Combined Transportation Services Indexes since June 2015

**Percent Change from Previous Month
(Seasonally Adjusted, Monthly Average of 2000 = 100)**

	Freight		Passenger		Combined	
	Index	Pct. Change	Index	Pct. Change	Index	Pct. Change
June	121.9	-0.3	122.4	0.6	122.1	-0.1
July	123.0	0.9	124.7	1.9	123.6	1.2
August	123.0	0.0	122.4	-1.8	122.9	-0.6
September	122.5	-0.4	123.0	0.5	122.8	-0.1
October	123.1	0.5	124.4	1.1	123.5	0.6
November	121.5	-1.3	122.9	-1.2	122.0	-1.2
December	121.0	-0.4	123.5	0.5	121.8	-0.2

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

Table 2: Freight Transportation Services Index Monthly Changes, 2012-2015
Percent change from previous month

	2012	2013	2014	2015
	% Change	% Change	% Change	% Change
January	-2.6	1.9	-1.7	-0.5
February	0.1	0.8	1.0	-1.6
March	-0.8	0.3	1.4	1.3
April	0.4	-0.8	0.6	-0.7
May	0.8	0.8	0.5	0.6
June	0.7	0.4	-0.7	-0.3
July	-0.4	-0.1	0.7	0.9
August	-0.5	0.3	0.5	0.0
September	-0.3	0.3	0.3	-0.4
October	-1.8	-0.3	0.7	0.5
November	1.7	2.6	1.3	-1.3
December	0.2	-1.0	-0.2	-0.4

SOURCE: Bureau of Transportation Statistics

Table 2A: Freight Transportation Services Index by Month, 2012-2015

	2012	2013	2014	2015
January	112.0	114.3	116.2	122.9
February	112.1	115.2	117.4	120.9
March	111.2	115.6	119.1	122.5
April	111.7	114.7	119.8	121.6
May	112.6	115.6	120.4	122.3
June	113.4	116.1	119.6	121.9
July	113.0	116.0	120.4	123.0
August	112.4	116.4	121.0	123.0
September	112.1	116.7	121.4	122.5
October	110.1	116.4	122.2	123.1
November	112.0	119.4	123.8	121.5
December	112.2	118.2	123.5	121.0

SOURCE: Bureau of Transportation Statistics

Table 3: Freight, Passenger and Combined Transportation Services Indexes Year-to-Date Change, 2006-2015
Percent change to December from December of the previous year

Year	Freight	Passenger	Combined
2006	-1.5	4.4	0.3
2007	0.2	2.4	0.7
2008	-9.5	-5.2	-8.3
2009	1.1	0.1	0.9
2010	7.2	2.5	5.7
2011	5.8	2.2	4.7
2012	-2.4	0.3	-1.6
2013	5.3	1.7	4.1
2014	4.5	2.6	4.0
2015	-2.0	1.9	-0.9

SOURCE: Bureau of Transportation Statistics

**Table 4: Freight Transportation Services Index from Year-to-Year
Percent Change in the December Freight TSI
(Monthly average of 2000 = 100)**

	December Freight TSI	Percent change from same month previous year
2006	110.6	-1.5
2007	110.8	0.2
2008	100.3	-9.5
2009	101.4	1.1
2010	108.7	7.2
2011	115.0	5.8
2012	112.2	-2.4
2013	118.2	5.3
2014	123.5	4.5
2015	121.0	-2.0

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

**Table 5: Transportation Services Indexes from Previous Years
Percent Change to 2015 (December to December)**

Since December ...	Duration in years	Freight TSI Percent change to December 2015	Passenger TSI Percent change to December 2015	Combined TSI Percent change to December 2015
2014	1	-2.0	1.9	-0.9
2013	2	2.4	4.6	3.0
2012	3	7.8	6.4	7.3
2011	4	5.2	6.7	5.6
2010	5	11.3	9.1	10.6
2009	6	19.3	11.9	16.9
2008	7	20.6	12.0	17.9
2007	8	9.2	6.2	8.2
2006	9	9.4	8.7	8.9
2005	10	7.7	13.5	9.2

SOURCE: Bureau of Transportation Statistics

Table 6: Passenger Transportation Services Index Monthly Changes, 2012-2015
Percent change from previous month

	2012	2013	2014	2015
	% Change	% Change	% Change	% Change
January	-0.5	0.7	-0.5	-1.3
February	1.7	0.1	0.1	-0.8
March	-1.0	-0.9	1.8	1.9
April	-0.3	0.9	0.0	0.5
May	-0.6	-0.1	0.6	0.2
June	0.3	0.6	-0.6	0.6
July	-0.3	-0.8	0.2	1.9
August	0.7	0.7	0.3	-1.8
September	0.1	-0.2	-0.2	0.5
October	-1.9	0.3	0.4	1.1
November	1.9	0.9	-0.7	-1.2
December	0.3	-0.4	1.3	0.5

SOURCE: Bureau of Transportation Statistics

Table 7: Passenger Transportation Services Index from Year-to-Year
Percent change in the December Passenger TSI
(Monthly average of 2000 = 100)

	December	Percent change
	Passenger TSI	from same month
		previous year
2006	113.6	4.4
2007	116.3	2.4
2008	110.3	-5.2
2009	110.4	0.1
2010	113.2	2.5
2011	115.7	2.2
2012	116.1	0.3
2013	118.1	1.7
2014	121.2	2.6
2015	123.5	1.9

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

Table 8: Combined Transportation Services Index Monthly Changes, 2012-2015
Percent change from previous month

	2012	2013	2014	2015
	% Change	% Change	% Change	% Change
January	-2.0	1.5	-1.3	-0.7
February	0.5	0.5	0.7	-1.4
March	-0.8	0.0	1.6	1.5
April	0.3	-0.3	0.4	-0.4
May	0.3	0.5	0.5	0.5
June	0.6	0.5	-0.7	-0.1
July	-0.4	-0.3	0.5	1.2
August	-0.2	0.4	0.5	-0.6
September	-0.1	0.2	0.2	-0.1
October	-1.9	-0.2	0.6	0.6
November	1.8	2.1	0.7	-1.2
December	0.3	-0.8	0.2	-0.2

SOURCE: Bureau of Transportation Statistics

Table 9: Combined Transportation Services Index from Year-to-Year
Percent change in the December Combined TSI
(Monthly average of 2000 = 100)

	December Combined TSI	Percent change from same month previous year
2006	111.8	0.3
2007	112.6	0.7
2008	103.3	-8.3
2009	104.2	0.9
2010	110.1	5.7
2011	115.3	4.7
2012	113.5	-1.6
2013	118.2	4.1
2014	122.9	4.0
2015	121.8	-0.9

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

Table 10: Freight Transportation Services Index Change by Quarter, 2006-2015
Percent change from the last month of the previous quarter

Year	1st Quarter (Jan-Mar) % Growth	2nd Quarter (Apr-Jun) % Growth	3rd Quarter (Jul-Sep) % Growth	4th Quarter (Oct-Dec) % Growth
2006	-0.4	1.0	-0.1	-2.0
2007	1.1	-1.9	-0.3	1.3
2008	-0.8	0.0	-2.5	-6.4
2009	-4.4	0.2	3.3	2.1
2010	4.0	0.9	0.6	1.6
2011	1.8	-0.5	1.0	3.3
2012	-3.3	2.0	-1.1	0.1
2013	3.0	0.4	0.5	1.3
2014	0.8	0.4	1.5	1.7
2015	-0.8	-0.5	0.5	-1.2

SOURCE: Bureau of Transportation Statistics

Table 11: Passenger Transportation Services Index Change by Quarter, 2006-2015
Percent change from the last month of the previous quarter

Year	1st Quarter (Jan-Mar) % Growth	2nd Quarter (Apr-Jun) % Growth	3rd Quarter (Jul-Sep) % Growth	4th Quarter (Oct-Dec) % Growth
2006	2.0	-0.1	-0.2	2.6
2007	2.6	0.1	0.7	-1.0
2008	0.3	-0.2	-3.7	-1.6
2009	-1.5	0.0	0.8	0.8
2010	0.3	1.1	1.2	0.0
2011	0.3	0.7	0.8	0.4
2012	0.2	-0.6	0.4	0.3
2013	-0.1	1.5	-0.3	0.7
2014	1.4	0.0	0.3	1.0
2015	-0.2	1.2	0.5	0.4

SOURCE: Bureau of Transportation Statistics

Table 12: Combined Transportation Services Index Change by Quarter, 2006-2015
Percent change from the last month of the previous quarter

Year	1st Quarter (Jan-Mar) % Growth	2nd Quarter (Apr-Jun) % Growth	3rd Quarter (Jul-Sep) % Growth	4th Quarter (Oct-Dec) % Growth
2006	0.4	0.6	-0.1	-0.6
2007	1.4	-1.2	0.0	0.5
2008	-0.4	-0.1	-2.8	-5.1
2009	-3.5	0.1	2.6	1.8
2010	2.8	0.9	0.8	1.0
2011	1.4	-0.1	0.9	2.5
2012	-2.3	1.2	-0.6	0.2
2013	2.0	0.8	0.3	1.0
2014	1.0	0.3	1.2	1.5
2015	-0.7	0.0	0.6	-0.8

SOURCE: Bureau of Transportation Statistics

Brief Explanation of the TSI

The Transportation Services Index (TSI) is a measure of the month-to-month changes in the output of services provided by the for-hire transportation industries. The freight index measure changes in freight shipments while the passenger index measures changes in passenger travel.

The TSI tells us how the output of transportation services has increased or decreased from month to month. The index can be examined together with other economic indicators to produce a better understanding of the current and future course of the economy. The movement of the index over time can be compared with other economic measures to understand the relationship of changes in transportation output to changes in Gross Domestic Product (GDP).

The freight transportation index consists of:

For-hire trucking,

Railroad freight services (including rail based intermodal shipments such as containers on flat cars),

Inland waterways transportation,

Pipeline transportation (including principally petroleum and petroleum products and natural gas), and

Air freight.

The index does not include international or coastal waterborne movements, private trucking, courier services, or the US Postal Service.

The passenger transportation index consists of:

Local transit,

Intercity passenger rail, and

Passenger air transportation.

The index does not include intercity bus, sightseeing services, ferry services, taxi service, private automobile usage, or bicycling and other non-motorized transportation.